

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/402, 472	10/12/99	CELERIER	D 0143-0473-6-

QM12/0702
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EXAMINER

JIMENEZ, M

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 07/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)
	09/402,472	CELERIER ET AL.
	Examiner	Art Unit
	Marc Jimenez	3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 8-11, 13-16, 18 and 19 is/are pending in the application.

4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5) Claim(s) ____ is/are allowed.

6) Claim(s) 8-11, 13-16, 18 and 19 is/are rejected.

7) Claim(s) ____ is/are objected to.

8) Claims ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on ____ is/are objected to by the Examiner.

11) The proposed drawing correction filed on ____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) Notice of References Cited (PTO-892) 18) Interview Summary (PTO-413) Paper No(s). ____

16) Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) Notice of Informal Patent Application (PTO-152)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 20) Other: ____

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 6/15/2001 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/402,472 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber (5,571,397) in view of Heinrichs et al. (DE 42 24 131).

Weber teach the following: an exhaust device for an internal combustion engine, the exhaust device comprising: a measuring transducer 2 configured to analyze a flow of exhaust gases from the engine, and a pipe element 6 adapted to carry the flow of exhaust gases from the engine, the pipe element 6 having an integral housing 4 in which the measuring transducer 2 is mounted, the housing 4 including a threaded hole extending through a bush 5 made directly through a wall of the pipe element 6.

Weber teach the invention cited above with the exception of the bush having an interior portion extending further within an interior of the pipe element than an exterior portion extending beyond an exterior of the pipe element.

Heinrichs et al. teach a pipe element **1** (see lower left figure) having a bush **9** having an interior portion (below **17**) extending further within an interior of the pipe element **1** than an exterior portion (above **17**) extending beyond an exterior of the pipe element **1**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Weber with the bush having an interior portion extending further within an interior of the pipe element than an exterior portion extending beyond an exterior of the pipe element, in light of the teachings of Heinrichs et al., in order to provide a bush that can be highly stress loaded and has reliable sealing properties and is simple to make (see the "USE/ADVANTAGE" section in the English abstract of Heinrichs et al.).

4. **Claims 9-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in view of Heinrichs et al. as applied to **Claim 8** above, and further in view of Applicant's Admitted Prior Art [AAPA] (Page 2, Line 4).

Weber/Heinrichs et al. teach the invention cited above with the exception of the pipe element having a thickness of between 1 mm and 3 mm and the pipe element being made of stainless metal alloy.

[AAPA] teaches that current exhaust pipes are between 1.5 and 2 mm (page 2, line 4).

It would have been obvious to one of ordinary skill in the art, at the time of the invention,

to have provided the invention of Weber/Heinrichs et al. with the pipe element having a thickness of between 1 mm and 3 mm, in light of the teachings of [AAPA], in order to provide a pipe that is uniformly strong.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Weber/Heinrichs et al. with a pipe made of stainless metal alloy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

In re Leshin, 125 USPQ 416.

5. **Claims 13, 14, 16, 18, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in view of Heinrichs et al. and with or without Olson (5,984,138).

Weber teaches forming an integral housing **4** with a bush **5** in a pipe element **6** adapted to carry a flow of exhaust gases from the engine, tapping a hole through the bush **5** to form internal threads in the hole, and mounting within the housing **4** a measuring transducer **2** configured to analyze a flow of exhaust gases from the engine.

Weber teaches the invention cited above with the exception of the housing being formed from a flow-drilling operation comprising drilling through a wall of the pipe element with a tool at a speed and a penetration force adapted to cause melting and upsetting of a material of the wall around the tool in proportion to an advance of the tool, wherein the bush has an interior portion and an exterior portion, the interior portion extending further within an interior of the pipe element than the exterior portion extends beyond an exterior of the pipe element.

Heinrichs et al. teach a pipe element **1** (see lower left figure) having a bush **9** having an interior portion (below **17**) extending further within an interior of the pipe element **1** than an exterior portion (above **17**) extending beyond an exterior of the pipe element **1**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Weber with the bush having an interior portion extending further within an interior of the pipe element than an exterior portion extending beyond an exterior of the pipe element, in light of the teachings of Heinrichs et al., in order to provide a bush that can be highly stress loaded and has reliable sealing properties and is simple to make (see the "USE/ADVANTAGE" section in the English abstract of Heinrichs et al.).

It appears that Heinrichs et al. teach a flow drilling operation at **7** to drill the bore **9**. It is inherent in flow drilling operations, melting and upsetting of material of the wall around the tool in proportion to advance of the tool is caused. Therefore, in view of Heinrichs et al., it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Weber, with flow drilling, in order to accurately and efficiently form the hole.

If applicant shows convincing evidence that Heinrichs et al. does not teach flow drilling as discussed above, then Olson clearly teaches the use of flow drilling in order to form a bore **46**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Weber/Heinrichs et al. with a flow drilling operation, in order to form a bushing that is symmetrical, structurally strong, and smooth.

It is noted that although Olson does not teach forming threads in the bore **46**, clearly Fogle et al. teach forming threads **38** in a bore **37** and Heinrichs et al. also teach forming threads **17** in a bore **9**.

With respect to Claim 14, official notice is taken that it is well known in the flow drilling art to use ogival mandrels in order to form smooth bushings.

With respect to Claim 16, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Weber/Heinrichs et al. with a pipe made of stainless metal alloy, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to Claims 18 and 19, it would have been obvious to one of ordinary skill in the art, at the time of the invention, that the particular speed that the tool rotates is clearly a matter of design choice, depending on the material to be drilled. Also, official notice is taken that it is well known in the art to rotate at speeds greater than 500 rpms.

6. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber in view of Heinrichs et al. and with or without Olson as applied to **Claim 13** above, and further in view of [AAPA].

Weber/Heinrichs et al. or Weber/Heinrichs et al./Olson teach the invention cited above with the exception of the pipe element having a thickness of between 1 mm and 3 mm and the pipe element being made of stainless metal alloy.

[AAPA] teaches that current exhaust pipes are between 1.5 and 2 mm (page 2, line 4).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of Weber/Heinrichs et al. or Weber/Heinrichs et al./Olson with the pipe element having a thickness of between 1 mm and 3 mm, in light of the teachings of [AAPA], in order to provide a pipe that is uniformly strong.

Response to Arguments

7. Applicant's arguments with respect to **Claims 8-11 and 13-16** have been considered but are moot in view of the new ground(s) of rejection.
8. In response to this office action, applicant is requested to clarify whether the lambda oxygen sensor **3** shown in Fig. 1 of the instant invention is a conventional sensor or a novel type of sensor.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Jimenez whose telephone number is (703) 306-5965. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Hughes can be reached on (703) 308-1806. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5648.

MJ 
June 26, 2001


S. THOMAS HUGHES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.